

Population Movement in Sapporo Metropolitan Area

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The increase of city population is mainly caused by the immigration, namely the social increase. On the other hand, migration within a city becomes active in accordance with the growth of the city. The purpose of this study is to analyze how immigration and emigration in a city and migration within a city are combined in a certain parts of the city, and then to explain the relationship between the areal differences of population change and patterns of the combination taking the case of Sapporo as an example.

All the discussions on migrations in this paper are based upon Removal Reports and Moving-in and out Reports in the period of April 1st–September 30th, 1965, because the data of population movements within small areas in a city are not available in the National Population Censuses.

Sapporo city is the center of the whole of Hokkaido and its principal functions are business, commerce, administration and education rather than manufacturing industry. Its growth has been remarkable during the last two decades i.e. its population increased from 476,000 in 1955 to 601,000 in 1960 and came to 795,000 in 1965. Such high rates of increase (1955–'60: 26.2%, 1960–'65: 32.2%) are not observed except in the cases of medium or small cities functioning as satellite cities around giant cities such as Tokyo, Osaka and Nagoya.

Most of the built-up area of Sapporo city is on the alluvial fan built by the Toyohira river in the Ishikari plain. Recent growth of the city, however, made its built-up area, especially its residential quarters, expand into the peat bog or rice fields to the north and the east, and toward hilly lands to the south and the west of the old built-up area, mainly along the railroads or street-car lines.

1. Pattern of Population Change (1960–1965)

Fig. 1 shows the areal differences of population change in Sapporo metropolitan area* for the period of 1960–1965. There is a general trend in the population growth of large cities. That is the decrease of population within the urban center,

* In this paper, the writer refers to Sapporo metropolitan area as composed of Sapporo-shi (city) and Teine-cho (town) north of Sapporo-shi, for the latter belongs to the suburbs of Sapporo-shi though administratively separated. 45.1% of all the commuters in Teine-cho are into Sapporo-shi in 1960.

Sapporo Municipal Office, and other government and public offices, banks and many kinds of offices, and a part of central shopping street. In short, this area is the central business district of Sapporo city.

B (Horokita) — Population increase is slow (8.9%) for the same period. This area consists of old residential district and small scale shopping streets.

C (Kita) — Rate of population increase is 72.9%.

D (Hokuei) — Rate of population increase is 222.5%.

Both C and D areas are recently developed residential districts.

2. Migration within and out of Sapporo Metropolitan Area

As is shown in the table 1, there is an excess of emigrants over immigrants in the area of population decrease, and contrarily an excess of the latter over the

Table 1. Migration within and out of Selected Four Areas

Area	Rate of Population Change (1960-65)	Emigration				Immigration			
		Within Sapporo (A ₁)	Out of Sapporo (A ₂)	Total (A)	A ₁ /A	Within Sapporo (B ₁)	Out of Sapporo (B ₂)	Total (B)	B ₁ /B
A	—33.1%	714	448	1,162	61.4%	277	555	832	33.3%
B	8.9	1,839	840	2,679	68.6	1,095	1,604	2,699	40.6
C	72.9	1,476	914	2,390	61.8	2,039	1,582	3,621	56.3
D	225.4	1,887	930	2,817	67.0	3,228	2,567	5,795	55.7

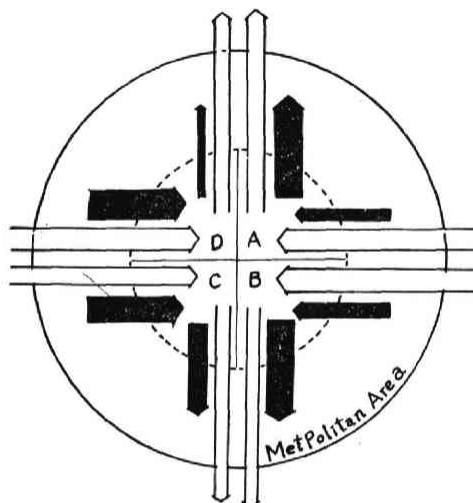


Fig. 2 Migration within and out of Sapporo Metropolitan Area

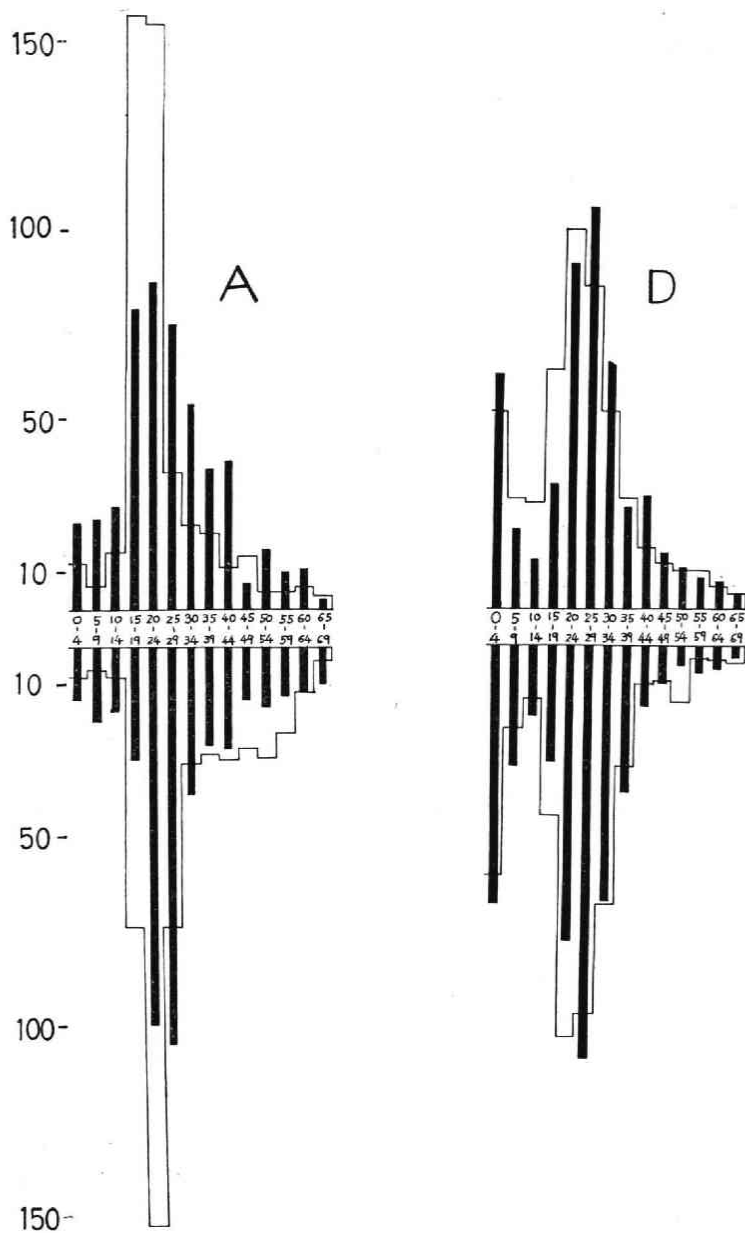


Fig. 3 Age composition of migrants per mil

white : from and to out of Sapporo black : from and to another areas within Sapporo

A : Area of population decrease D : Area of heavy population increase
upper : immigrants, lower : emigrants

former in the area of increase, where the rate of immigrants to emigrants, too, becomes larger in proportion to the rate of population increase. Let us compare the emigrations out of Sapporo with those within Sapporo, the former exceeds the latter in all the four areas. On the other hand, in the case of immigration, areas of decrease or stagnation get more immigrants from out of Sapporo than from within. Relationship between these two elements is reverse in the areas of increase. These differences of population movements between decreasing and stagnant areas and increasing areas are shown in fig. 2.

Age composition of migrants in Japanese large cities has been discussed by Dr. H. Kawabe in his reports of population movements in Tokyo and Osaka. The writer showed age structure of migrants in decreasing and heavily increasing areas in fig. 3. This figure shows that in the decreasing area, 15-24 years old age group amounts a very high rate in all the migrants to and from areas other than the city, compared with the migrants within the metropolitan area. This figure also reveals that most of the migrants in this area are not accompanied by their families. As to the heavily increasing area, the migrants with their families are

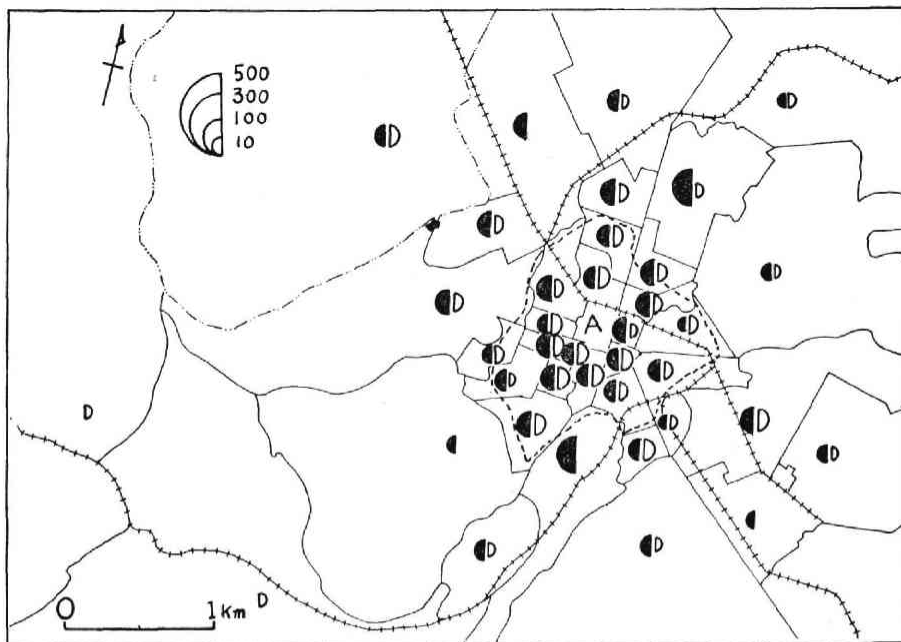


Fig. 4-a Migrants from and to area of population decrease (A)
 white : immigrants black : emigrants
 Area encircled by dotted line is built-up area.

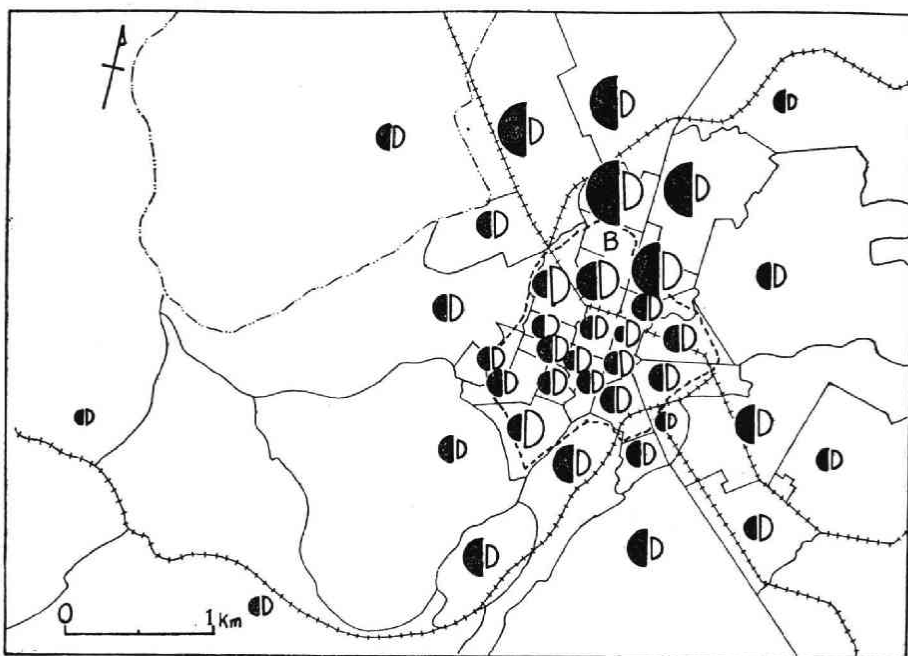


Fig. 4-b Migrants from and to area of population stagnance (B)

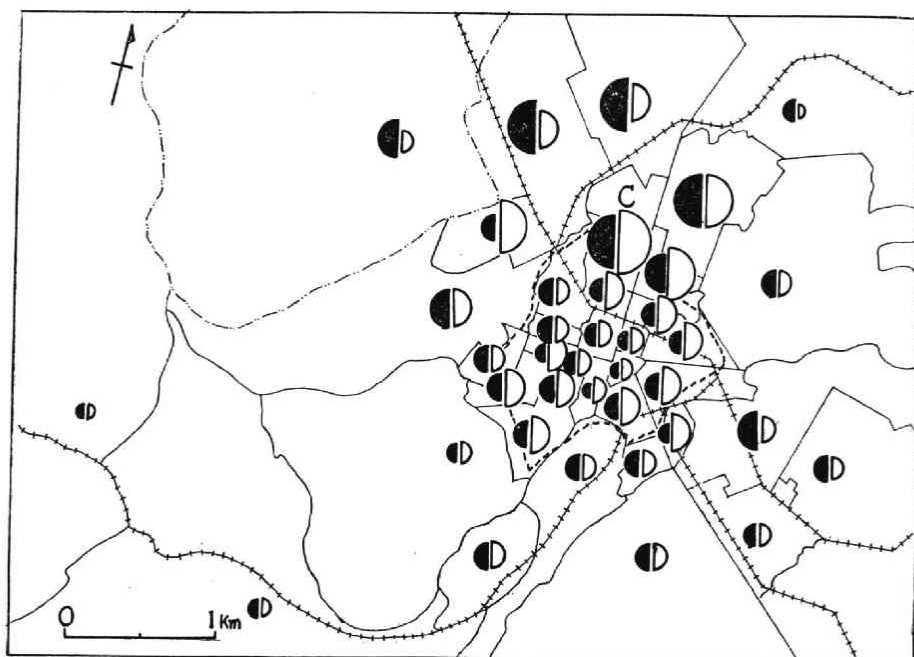


Fig. 4-c Migrants from and to area of population graduate increase (C)

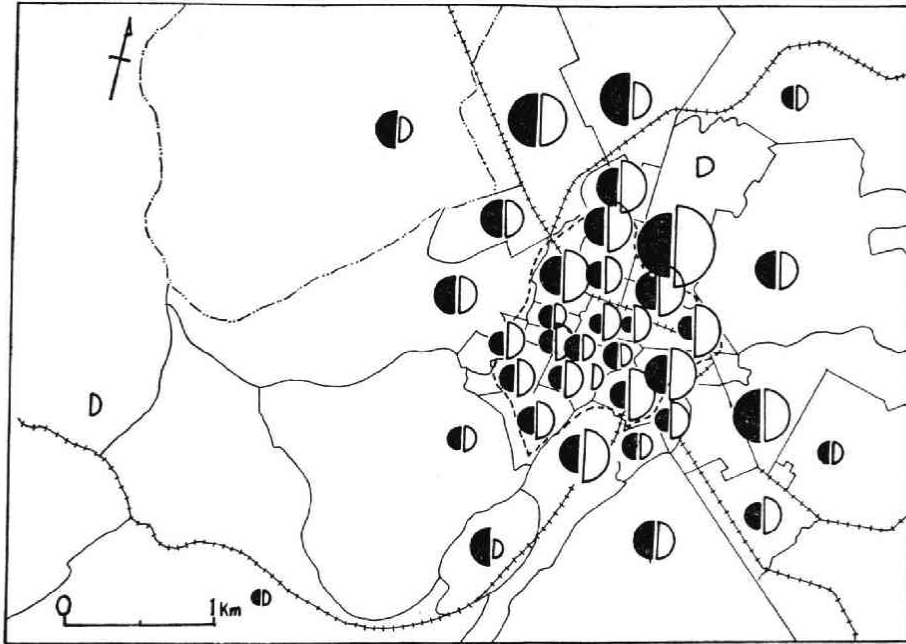


Fig. 4-d Migrants from and to area of population heavy increase (D)

more in number concerning the migrations both within and out of the city in contrast to those in the decreasing area. In brief, as Prof. K. Tanabe and Dr. H. Kawabe pointed out, the population change in decreasing area (namely in the urban centers), is affected by the migrants unaccompanied by their families and that in increasing areas (outer zones) by the migrants with families.

3. Migration within the Metropolitan Area

The writer showed in fig. 4-a, b, c and d the four areas according to whether they gained or lost population, and also according to the trends of the movements within the metropolitan area. From these figures, it is summarized as follows:

- (1) The decreasing area in the center of the city gets and releases population rather equally from and to all the parts of the city.
- (2) The stagnant area is similar to the decreasing area as to the immigration, namely it gets population from all the part while it releases its population to its adjacent areas.
- (3) Both gradually and heavily increasing areas exchange the population with areas of same character in population change. The same trend is seen concerning the decreasing and stagnant areas, too.

4. The Areal Difference of Migration — Conclusion

Fig. 5-a and b show the rate of exchange with outside and within the city against all migrations in each of the four areas. The areal difference of migration in Sapporo is as follows:

(1) Concerning the relation with areas outside the city, immigration exceeds emigration resulting in the population increase of the city. In the decreasing area, the account of migration is rather in balance, but in the increasing areas the accounts are positively in receipt.

(2) In Sapporo city, the decreasing area composes a part of the central business district. Here the rate of exchange with areas of the same character comes

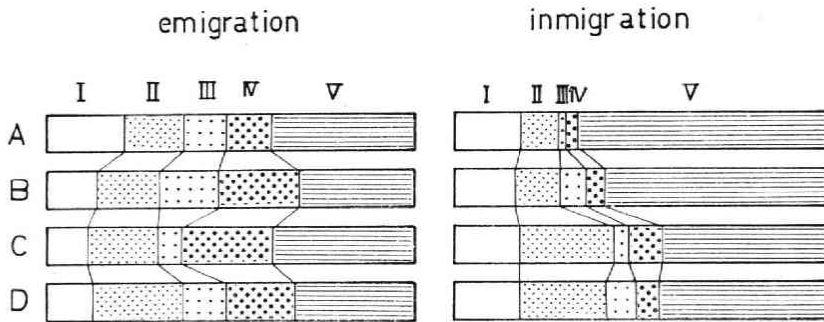


Fig. 5-a Composition of migrants within and out of Sapporo

- I: Areas of population decrease
- II: Areas of stagnant population increase (0-50% increase)
- III: Areas of gradual population increase (50-100%)
- IV: Areas of heavily population increase (100% and over)
- V: Out of Sapporo metropolitan area

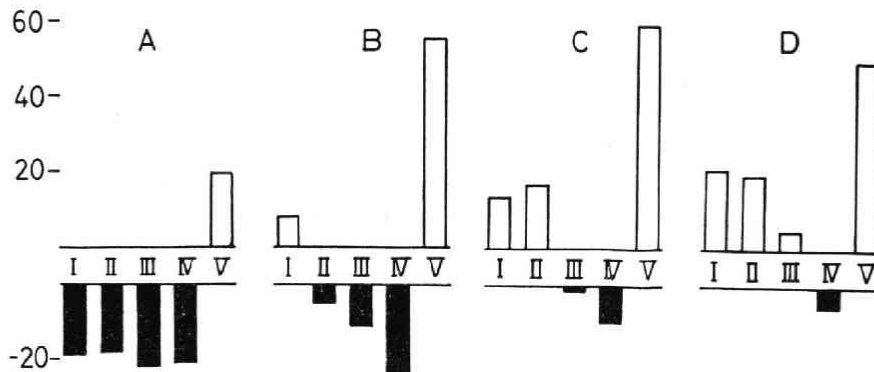


Fig. 5-b Net-migration (%)

to the next to that of exchange with outside the metropolitan area. The rate of net-migration in this area shows a positive number only in reference to the outside of the metropolitan area.

The exchange with outside the metropolitan area is mainly caused by the younger age group engaged in small scale businesses predominant in these areas. In short, most of immigrants are young and apart from their families. They move into this area of the city from outside to live. Here the shops and small offices are often equipped with bedrooms for them. They often emigrate out of the city or move within the central part looking for new jobs.

(3) In accordance with the accelerated population increase, exchange with outside of the metropolitan area becomes less, and that within that area becomes more. In the latter case, the areas gather population mainly from the areas of decrease or stagnation and release it to the areas of stagnation or the areas of the same kind. The rates of net-migration in these areas show negative numbers only in reference to the areas of the same kind.

On the outskirts of the built-up area or in the suburbs, immigrants with families from within or outside the metropolitan area live in newly built apartment houses or the rented houses. Some of them move toward more outer zone building their new houses or finding other apartment houses or the rented houses.

(4) The area of stagnant change of population has the trend of an intermediate character between decreasing and increasing areas.

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